Patent Claims

Process for Determining the Form of a Residual Tooth Area

1. Process for determining the form of a duplicate of a residual tooth area which is to be fitted with a dental restoration such as a bridge or framework, whereby the duplicate sections to be fitted with the restoration and/or duplicate sections determining their design are removed from the duplicate and the form data to be allocated to their forms has to be determined and stored in a computer, by means of which the form of the restoration is calculated taking into consideration the spatial allocation of the duplicate sections,

   characterized in that

   the duplicate sections are or are being individually referenced as to their spatial allocation to each other in a referencing stored in the computer, and which is independent of the duplicate.

2. Process according to claim 1,

   characterized in that

   a casting is taken from at least one of the residual teeth areas of the jaw to be fitted with a restoration, that from the casting a model is preferably fabricated as the duplicate by pouring out of the casting with plaster, that the duplicate is attached on a ready-made base plate having references, that the base plate with the duplicate attached thereon is split apart for obtaining the duplicate sections, and thereupon the duplicate sections are measured taking into consideration references, which exist on the base plate sections, onto which the duplicate sections are arranged.

3. Process according to claim 2,

   characterized in that

   in particular geometrical properties of the base plate and/or markings are used as references.

4. Process according to claim 3,

   characterized in that

points and/or lines may be used as markings on the base plate.

5. Process according to claim 3,
   characterized in that
   as geometrical properties, delimitations such as edges or at least surface sections of the base plate are used.

6. Process according to at least claim 2,
   characterized in that
   the duplicate is surface-ground and, with the underside, is attached (e.g., glued) to a plane surface of the base plate following a tooth arc.

7. Process according to at least claim 6,
   characterized in that
   the duplicate is attached to the base plate in such a way, that the duplicate is spaced on all sides to the edge of the base plate.

8. Process according to at least claim 2,
   characterized in that
   a plate is used, which exhibits in or at least along a longitudinal wall running along the duplicate a texture such as a wave-shaped and/or zigzag geometry.

9. Process according to at least claim 8,
   characterized in that
   intersections or virtual interfaces of peripheries of the wave-shaped and/or zigzag geometry are used as references.

10. Process according to at least claim 1
    characterized by the procedural steps

    - Taking a casting of at least one of the residual tooth areas comprising part of the jaw;

- Fabrication of the duplicate preferably by filling the casting with plaster;

- Mounting of the duplicate on the base plate having the references (dental model);

- Splitting of the base plate with thereon attached duplicate for obtaining model sections which comprise the duplicate sections;

- Measuring of the duplicate sections for capturing form data and the references provided on the respective base plate sections;

- Match up of data, which correspond to the references of the individual model sections, with the referencing data stored in the computer; and

- Fabrication of the dental restoration under consideration of the form data and the data gained by matching.

11. Process according to claim 1,
characterized in that
the duplicate is directly provided with references.

12. Process according to claim 11,
characterized in that
the references are produced when making the casting.